

UMANSKIY, Lev Mikhaylovich; BROYDE, I.M., red.; LATUKHINA, Ye.I.,
ved. red.; YAKOVLEVA, Z.I., tekhn. red.

[Ways to reduce costs in the petroleum-producing industry]
Puti snizhenia sebestoimosti v neftedobyvaiushchei promyshlen-
nosti. Moskva, Gostoptekhsdat, 1962. 157 p. (MIRA 16:1)
(Petroleum industry—Costs)

UMANSKIY, L.M.

Possibilities of lowering the costs of drilling operations carried out in Mesozoic sediments. Neft, khoz. 40 no.10:1-6 0 '62.

(MIRA 16:7)

(Ciscaucasia—Oil well drilling—Costs)

UMANSKIY, Lev Mikhaylovich; UMANSKIY, Moisey Mikhaylovich; BROYDE, I.M.,
kand.ekon.nauk, retsenzent

[Economics of the petroleum and gas industries] Ekonomika
neftianoi i gazovoi promyshlennosti. Moskva, Nedra, 1965.
378 p. (MIRA 18:10)

ACC NR: AR7002210

SOURCE CODE: UR/0271/66/000/010/A006/A006

AUTHOR: Umanskiy, L. M.

TITLE: High capacity ferrite-transistor distributor for a remote control-remote signal system

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 10A39

REF SOURCE: Tr. Frunzensk. politekhn. in-ta, vyp. 18, 1965, 60-63

TOPIC TAGS: remote control system, ferrite, transistor, ^{high capacity} distributor, remote signal system, communication system, ~~transistor~~ electronic feedback, trigger circuit, transistorized circuit, signal transmission

ABSTRACT: A high capacity distributor (i. e. one capable of handling up to 1000 transmitted commands and received signals) which uses a binary counter operating on ferrite-transistor triggers, is described. Each trigger consists of one ferrite element and one transistor. The circuit for such a trigger which differs from the circuit of the conventional ferrite-transistor cell, having a positive feedback, has a semiconductor diode and a resistor in the transistor base circuit. A remote

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UDC: 62-52:621.374.36

ACC NR: AR7002210

control-remote signal distributor capable of handling of approximately 1000 commands, is provided with a pulse counter with 10 of the above described triggers. Distributor circuits for a one-terminal controller set and a one-terminal auxiliary controller set are given. The use of a one pulse generator assures the synchronous operation of these distributors. Cophase operation is achieved by transmitting pulses from the generator to the distributor of the one-terminal auxiliary control through a pulse valve which is connected to the line junction of the controller's one-terminal set. [Translation of abstract] [DW]

SUB CODE: 09/

Card 2/2

UMANSKIY, M.;UMANSKIY, L.

Automation of oil industries and growth of labor productivity.
Sots. trud. 4 no.10:34-40 0 '59 (MIRA 13:3)
(Petroleum industry--Labor productivity)
(Automation)

UMANSKIY, M., inzh.

Preparing water in an electromagnetic filter. Sel'.stoi. 16
no.5:28 My '61. (MIRA 14:6)

(Electromagnetic waves)
(Feed-water purification—Equipment and supplies)

UMANSKIY, M. A.

Thrombocytopenia and its treatment after surgery using artificial
blood circulation. Probl. gemat. i perel. krovi no.8:46-49 '62.
(MIRA 15:7)

1. Iz kliniki torakal'noy khirurgii (zav. - chlen-korrespondent
AMN SSSR prof. N. M. Amosov) Ukrainskogo instituta tuberkuleza
i grudnoy khirurgii (dir. - dotsent A. S. Mamolat)

(BLOOD--CIRCULATION, ARTIFICIAL) (BLOOD PLATELETS)

TRESHCHINSKIY, A.I.; NIKOLAYEV, Ya.A.; UMANSKIY, M.A.; BELAN, S.N.;
LYAVINETS, A.S.; MALOVIGHKO, A.Ya.; PIVCHIK, D.T.

Effect of andaxin on healthy people. Vrach.delo no.11:149-150
N 162. (MIRA 16:2)

1. Kafedra torakal'noy khirurgii i anestezilogii (zav. - prof.
N.M. Amosov) Kiyevskogo instituta usovershenstvovaniya vrachey.
(MEPROBAMATE)

UMANSKIY, M.A.

Anesthesia in heart catheterization in children. Khirurgia no.1:
91-94 '63. (MIRA 17:5)

1. Iz kliniki torakal'noy khirurgii (zav. - prof. N.M. Amosov)
Ukrainskogo instituta tuberkuleza i grudnoy khirurgii.

UMANSKIY, M.A.; TRESHCHINSKIY, A.I.; LOBODYUK, M.S. (Kiyev).

Use of protamine sulfate in surgery with artificail blood
circulation. Vrach. delo no.11:133 N'63 (MIRA 16:12)

1. Klinika torakal'noy khirurgii (zav.-chlen-korrespondent
AMN-SSSR, prof. N.M.Amosov) Ukrainского instituta tuberku-
leza i grudnoy khirurgii.

KARAVANOV, A.O.; LAVRIK, S.S.; UMANSKIY, M.A.

Clinical effectiveness of fibrinogen in acute hemorrhages. Gezat. 1
perel. krovi 18:7-12 '65. (MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi.

KARAVANOV, A.G., prof.; UMANSKIY, M.A., kand. med. nauk; KREMEN', M.G.

First experience in the use of a Soviet-made fibrinogen in
surgery with artificial circulation. Klin. khir. no.2:18-22 '65.
(MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi i Ukrainskiy institut
tuberkuleza i grudnoy khirurgii.

UMANSKIY, M.A.

Factory 's best efficiency promoter. Mashinostroitel' no.2/3:40
H-D '56. (MIRA 12:1)
(Kharkov--Tractor industry)

UMANSKIY, M.A., inzhener.

Mechanic-production innovator. Mashinostroitel' no.8:29-30 Ag '57.
(Machine tools) (MLRA 10:8)

S/123/59/00/010/059/068
A004/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 10, p. 194,
38709

AUTHOR: Umanskiy, M. A.

TITLE: High-Efficiency Molding Machines for Large-Size Castings 18

PERIODICAL: Byul. tekhn.-ekon. inform. Sovnarkhoz Khar'kovsk. ekon. adm. r-na,
1958, No. 3, pp. 39-42

TEXT: At the foundry shop of the KhTZ, large-size tractor part castings (cylinder head, block, gear box etc.) are molded on the BBΦ-2,5 (VVF-2,5) swivel-type jar molding machine, for the upper flasks, and on the 3ΠΦ-2,5 (VPE-2,5) machine, for the lower flasks. The machines were designed and built by the Plant itself; they differ from the "German" model and the 405 model in the following features: they are very simple in design, do not require complex setting and adjusting, make it possible to control the jarring height and number and toughness of strokes (which renders it possible to stamp in the flask with 15 - 20 strokes compared to 120 - 150 on the "German" machine), the turning time is cut down

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S/123/59/000/010/059/068
A004/A001

High-Efficiency Molding Machines for Large-Size Castings

from 10 seconds (on the "German" machine) to 2-3 seconds. A good lubrication of the friction surfaces is ensured. The VPF-2,5 machine has a swivel-table of great length, which makes it possible to place long flasks without difficulty. The swivel motion of the table is effected simultaneously with its elevation with the aid of a chain. The VPF-2,5 machine does not require frequent settings and repairs, which increases its efficiency. There are 4 figures.

K. Yu. P. ✓

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

UMANSKIY, M.A.

Automatic machine for hardening with high-frequency current.
Mashinostrotel' no.1:12 Ja '62. (MIRA 15:1)
(Steel--Hardening)

UMANSKIY, M.A.

Two-way shot-peening chamber. Mashinostroitel' no. 2:24 F '62.
(MIRA 15:2)
(Shot peening—Equipment and supplies)

UMANSKIY, M.A.

Semiautomatic shakeout unit. Mashinostroitel' no.8:6-7 Ag
'62. (MIRA 15:8)
(Kharkov--Foundries--Equipment and supplies)

UMANSKIY, M.A.

Semiautomatic unit for preparing pasty mixtures. Mashino-
stroitel' no.12:19 D '63. (MIRA 17:1)

LUNEV, V.V., inzh.; BERKUN, M.N., inzh.; VOLCHCK, I.P., inzh.; UMANSKIY, M.A.,
inzh.

Effect of heat treatment on the cold strength of cast medium-
carbon steel. Mashinostroenie no.6:71-72 N-D '64
(MIRA 18:2)

UMANSKIY, M.A.

A semiautomatic unit of continuous action for rolling out the
patterns. Lit. proizv. no.11:93-35 N '64. (MIRA 18:8)

~~UMANSKIY, M. N.~~

Methods for determining the economic effectiveness of secondary methods
of oil recovery. Neft.khoz.33 [i.e.34] no.9:4-7 8 '56. (MIRA 9:10)
(Secondary recovery of oil)

ZEVIN, L. S.; UMANSKIY, M. M.; KHEYKER, D. M.

"The determination of optimal conditions of diffractometer registration of polycrystals in connection with geometrical aberrations."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome,
9 Sep 63.

Asbestos Cement Res Inst, Physics Dept, Moscow State Univ.

UMANSKIY, Moisey Mikhaylovich; BROIDE, I.M., redaktor; PETROVA, Ye.A.,
vedushchiy redaktor; TROFIMOV, A.V., tekhnicheskii redaktor

[Ways of reducing the cost of petroleum production] Puti snizheniia
sebestoimosti dobychi nefti. Moskva, Gos. nauchno-tekhn. izd-vo
neft. i gorno-toplivnoi lit-ry, 1957. 101 p. (MLRA 10:5)
(Petroleum industry--Costs)

UMANSKIY, L.M.; UMANSKIY, M.M.

Method for determining economic effectiveness of automation of petroleum production processes. Izv.vys.ucheb.zav.; neft' i gaz
1 no.9:119-124 ' 58. (MIRA 11:12)

1. Groznenskiy neftyanoy institut i Groznenskiy nauchno-issledovatel'skiy neftyanoy institut.
(Petroleum industry) (Automation)

UMANSKIY, M.M.; MIKHAYLOV, L.L.; UMANSKIY, L.M.; BABUKOV, V.G.; NAZARETOV, M.B.

Developing new forms of industrial and labor organizations for
automatic and remotely controlled oil production processes.

Neft.khoz. 37 no.2:18-22 F '59.

(MIRA 12:4)

(Oil fields--Production methods)

(Automation)

(Remote control)

UMANSKIY, M.M., kand.ekon.nauk; UMANSKIY, L.M., kand.ekon.nauk

Economic efficiency of automation in enterprises of the oil industry.
Mekh.i avtom.proizv. 14 no.12:41-43 D '60. (MIRA 13:12)
(Petroleum industry) (Automation)

UMANSKIY, Lev Mikhaylovich; UMANSKIY, Moisey Mikhaylovich; BROYDE, I.M.,
red.; SAVINA, Z.A., red.; POLOSINA, A.S., tekhn. red.

[Economic reserves of petroleum production administrations]
Rezervy ekonomii neftepromyslovyykh upravlenii. Moskva, Gos.
nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961.
166 p. (MIRA 14:5)

(Petroleum industry)

UMANSKIY, M.M.; UMANSKIY, L.M.

Method of determining the economic effectiveness of automatic
control in petroleum production enterprises. Neft. khoz. 39
no.7:5-10 J1 '61. (MIRA 14:6)
(Oil fields--Production methods)
(Automatic control)

UMANSKIY, M.M.

Economic aspects of the manufacture of high-octane automobile
gasolines. Khim.i tekhn.topl.i masel 7 no.9:37-41 S '62.

(MIRA 15:8)

1. Groznenskiy nauchno-issledovatel'skiy neftyanoy institut.

(Automobiles--Fuel consumption)

(Gasoline--Antiknock and antiknock mixtures)

UMANSKIY, Moisey Mikhaylovich; BROYDE, I.M., red.; TITSKAYA, B.F.,
red.; VORONOVA, V.V., tekhn. red.

[Cost of petroleum refining products and possibility of lowering it] Sebestoimost' produktov neftepererabotki i puti ee snizheniia. Moskva, Gostoptekhnizdat, 1963. 122 p.

(MIRA 16:7)

(Petroleum products--Costs)

UMANSKIY, M.M.; VORONKOVA, K.F.

Economics of the production of benzene from crude. Trudy
GrozNII no. 15:366-371 '63. (MIRA 17:5)

VOLEKOVA, G.A.; BALASHOVA, T.V.; BUCHEVA, V.N.; UMANSKIY, M.M.

Basic assumptions of a method for the determination of economic efficiency in the automatic and remote control of petroleum production. Trudy VNII no.39:224-238 '63. (MIRA 17:10)

UMANSKIY, Lev Mikhaylovich; UMANSKIY, Moisey Mikhaylovich; BROYDE, I.M.,
kand.ekon.nauk, retsenzent

[Economics of the petroleum and gas industries] Ekonomika
neftianoi i gazovoi promyshlennosti. Moskva, Nedra, 1965.
378 p. (MIRA 18:10)

FRID, M.N.; UMANSKIY, M.M.; KHABASOKHALOVA, G.Ya.; VISHNYAK, Yu.Ya.

Economic effectiveness of the removal of aromatic compounds
from "rubber" gasoline using diethylene glycol at the Groznyy
Petroleum Refinery. Naftaper. i. neftekhim. no.7:4-6 '65.

(MIRA 18:12)

1. Groznenskiy neftyanoy nauchno-issledovatel'skiy institut.

L 14990-66 EWT(1)/EWT(m)/EWP(w)/EPF(n)-2/T/EWP(t)/EWP(b) IJP(c) JD/WW/JG/LHB

ACC NR: AP5028561

(N)

SOURCE CODE: UR/0126/65/020/005/0719/0722

AUTHOR: Umanskiy, Ya. S.; Fadayeve, V. I.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Diffuse scattering of x rays in HfC-ZrC solid solutions

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 5, 1965, 719-722

TOPIC TAGS: carbide phase, hafnium compound, zirconium containing alloy, metal physics, phase transition, metal hardening, crystal lattice formation, x ray scattering

ABSTRACT: Diffuse x-ray scattering was used to study short range order in solid solutions of HfC-ZrC having an atomic ratio of 50:50. The ordering reaction was followed in the metallic sublattice of the compound by taking one point on this lattice as the sphere of reflection and computing every coordination sphere filled by metal atoms. The alloy was made from HfC containing 6.20% combined carbon and 0.09% free carbon, and ZrC containing 11.48% combined and 0.16% free carbon. Samples were prepared by hot pressing at 1900°C, homogenizing at 2700°C for 2 hrs (Tamman fur-

UDC: 548.73 : 669.018.4

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ACC NR: AP5028561

nace--helium atmosphere) and heat treating isothermally at 2100°C (20 min), 1900°C (5 hrs) and 1200°C (100 hrs) with subsequent air cooling. The lattice parameter of the alloy was $a = 4.664$ angstroms. Diffuse scattering was measured on a URS-50I diffractometer according to the method generally used for polycrystals; a vacuum camera aided in eliminating air dispersion. Both Compton and thermal scattering were determined. The resultant diffuse scattering gave an indication of the short range order existing in the lattice. The short range order parameter α_i was obtained from the following equation:

$$I_{\text{tot}} = Nc_Ac_B(f_B - f_A)^2 \left(1 + \sum_{i=1}^{\infty} c_i \alpha_i \frac{\sin kr_i}{kr_i} \right).$$

This parameter was utilized in getting the first two coordination spheres of the alloy quenched from 1900 and 1500°C; these values α_1 and α_2 rose somewhat with lowering in annealing temperature, while α_3 for the third coordination sphere was negative and very small in absolute magnitude. The significance of the sign and magnitude of α_1 was examined. The positive sign for the first two parameters indicated a segregation tendency among the metallic atoms, while the small magnitude of α_1 for the alloys quenched from 1500 and 1900°C signified a low value for the critical

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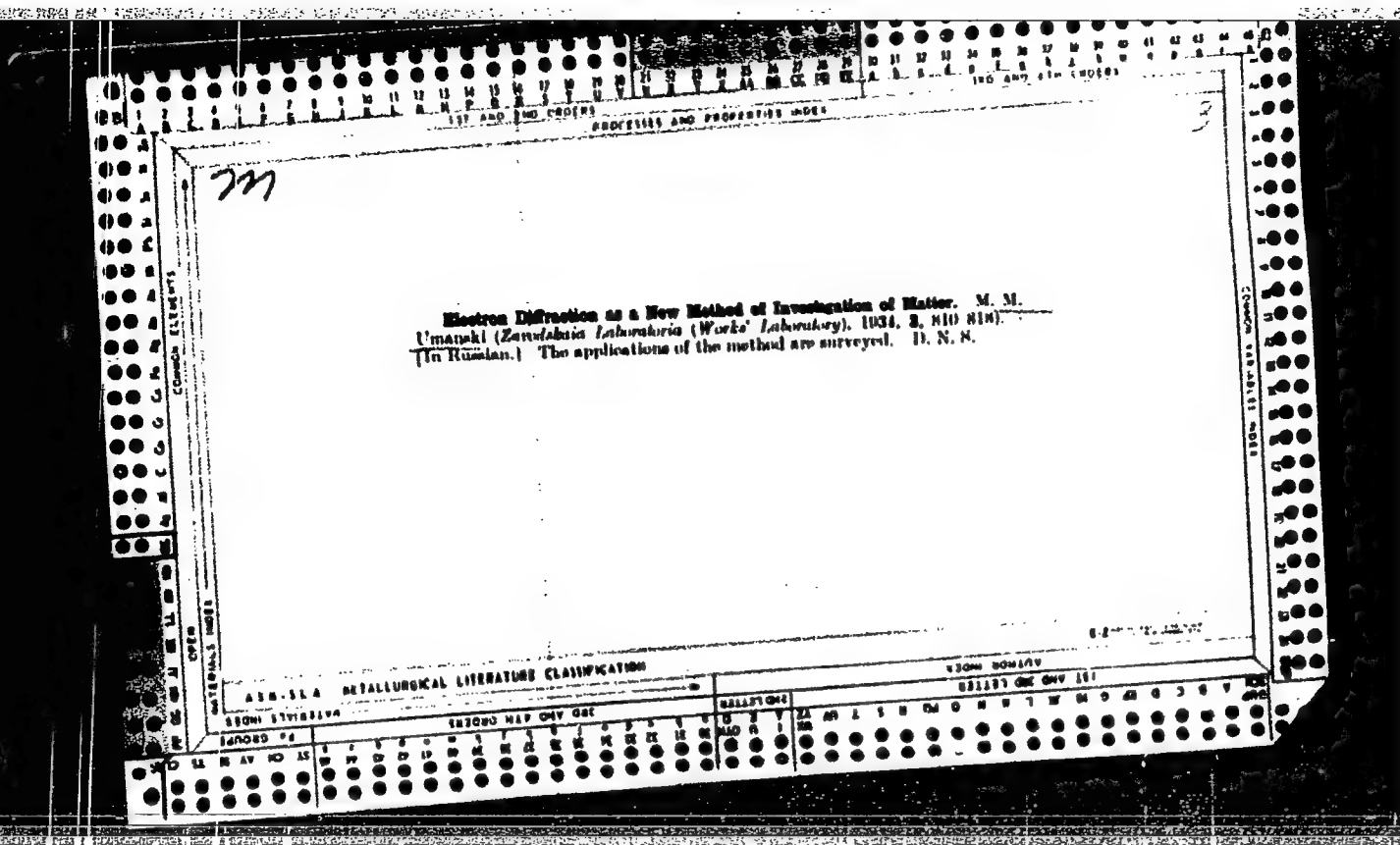
L 14990-66

ACC NR: AP5028561

decomposition temperature of the solid solution. X-ray intensity was plotted as a function of $\sin \theta/\lambda$ for samples quenched from 1900, 1500 and 1200°C. The radial scattering density of the atoms was also given. A low value of the migration energy U based on the short range order observations was postulated as a function of temperature. A calculation showed this energy to be 1.5 kcal/g-atom for specimens annealed at 1900 and 1500°C. Microhardness was shown as a function of heat treatment temperature. This hardness dropped steadily with increase in temperature, indicating a loss in order. It was concluded that at temperatures close to the critical mark, mixtures of two solid solutions are present: HfC in ZrC and ZrC in HfC. Orig. art. has: 3 figures, 2 equations.

SUB CODE: 20,11/ SUBM DATE: 05Jan65/ ORIG REF: 004/ OTH REF: 003

Card 3/3



m

An Example of the Use of X-Ray and Microscopic Analysis as an Aid in the Rational Thermal Treatment of Brass. A. I. Klinikov and M. M. Umanzhil
[Zavod. Lab. (Works' Lab.), 1935, 4, (B), 1003-1006; C. Abz., 1936, 50, 1714].
[In Russian.] The results of X-ray and microscopic examinations of the effect of thermal treatment on the microstructure of two samples of brass are illustrated and described.— N. B. V.

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
SUBJECTS AND PROPERTIES INDEX																										SUBJECTS AND PROPERTIES INDEX																									
<p><i>m</i></p> <p>Method for Determining Crystal Orientations in Metallic Thin Films. M. M. Umanetskiy and V. A. Krikov (<i>Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki</i> (<i>J. Exper. Theoret. Physics</i>), 1936, 6, (7), 684-690).—[In Russian.] The quantitative characteristic of the degree of orientation is the curve of distribution of the section of the three-dimensional polar figure by a plane. A method is given for constructing the distribution curve by comparing the relative intensities of the Debye lines. A calculation is given and a curve constructed for the distribution of crystals in a cadmium film obtained by vaporization in a high vacuum.—N. A.</p>																																																			
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<p>RECORDS OF THE</p>																																																			

117 AND 118 COLLECT

PROCESSING AND PROPERTY INDEX

3

m

***Electron Diffraction Investigation of the Structure of Thin Metal Films.**
M. M. Ulanovskiy and V. A. Krilov (Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (J. Exptl. Theoret. Physics), 1956, 3, (7), 691-699).—[In Russian.] Examination of the structure of thin films showed that copper, nickel, molybdenum, and tungsten (obtained by evaporation in a high vacuum) have the normal lattice, whereas with similar films of magnesium, iron, zinc, and cadmium an oriented crystallization was observed. The crystal size (10^{-6} – 10^{-7} cm.) appears to be related to the melting point of the metal. The structure and size of the crystals do not change with lapse of time.—N. A.

COMMON ELEMENTS

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

117 AND 118 COLLECT

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SA

B 62
A

24. X-ray analysis of nitrided steel. M. UMANSKIY. *J. Techn. Phys. U.S.S.R.*, 8, 6, pp. 828-832, 1939. *In Russian.*—The research aimed at the distribution of phases along the depth of the nitrogenous layer. A definition of the layers is given. Mass and microstructural analyses were carried through, and microstructural specimens of the different layers examined by X-rays, following Debye's method. The situation of the lines on the diagrams was determined with a precision of ± 1 mm. In correspondence with the diagram of the state Fe-N the appearance of the phases ϵ , γ , α in different combinations was to be expected. The presence of a great number of different admixtures to the nitrided steel is of little influence on the constants of the crystal lattice of the different phases (γ , α , ϵ). The depth of the metal layer partaking in the formation of the X-ray diagram was found not to surpass 0.012 mm. The results showed that next to the surface in all the specimens there was a layer of the ϵ -phase. The contents of nitrogen were determined following the constant of the ϵ -phase. The thickness of the layer and the concentration of N in this skin was constant for any specimen investigated. Then follows a layer of decreasing concentration in N, next a layer of the combination ($\epsilon + \gamma$) then a very thin layer (less than 0.003 mm.) of pure γ followed by a layer ($\alpha + \gamma$) and, finally, a pure α -layer. F. H. K.

ALB-51A METALLURGICAL LITERATURE CLASSIFICATION

1939-1949

1950-1959

1960-1969

1970-1979

1980-1989

1990-1999

2000-2009

2010-2019

2020-2029

2030-2039

2040-2049

2050-2059

2060-2069

2070-2079

2080-2089

2090-2099

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2110-2119

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2160-2169

2170-2179

2180-2189

2190-2199

2200-2209

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2220-2229

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2240-2249

2250-2259

2260-2269

2270-2279

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2330-2339

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3000-3009

3010-3019

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3100-3109

3110-3119

3120-3129

3130-3139

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3150-3159

3160-3169

3170-3179

3180-3189

3190-3199

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4090-4099

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4110-4119

4120-4129

4130-4139

4140-4149

4150-4159

4160-4169

4170-4179

4180-4189

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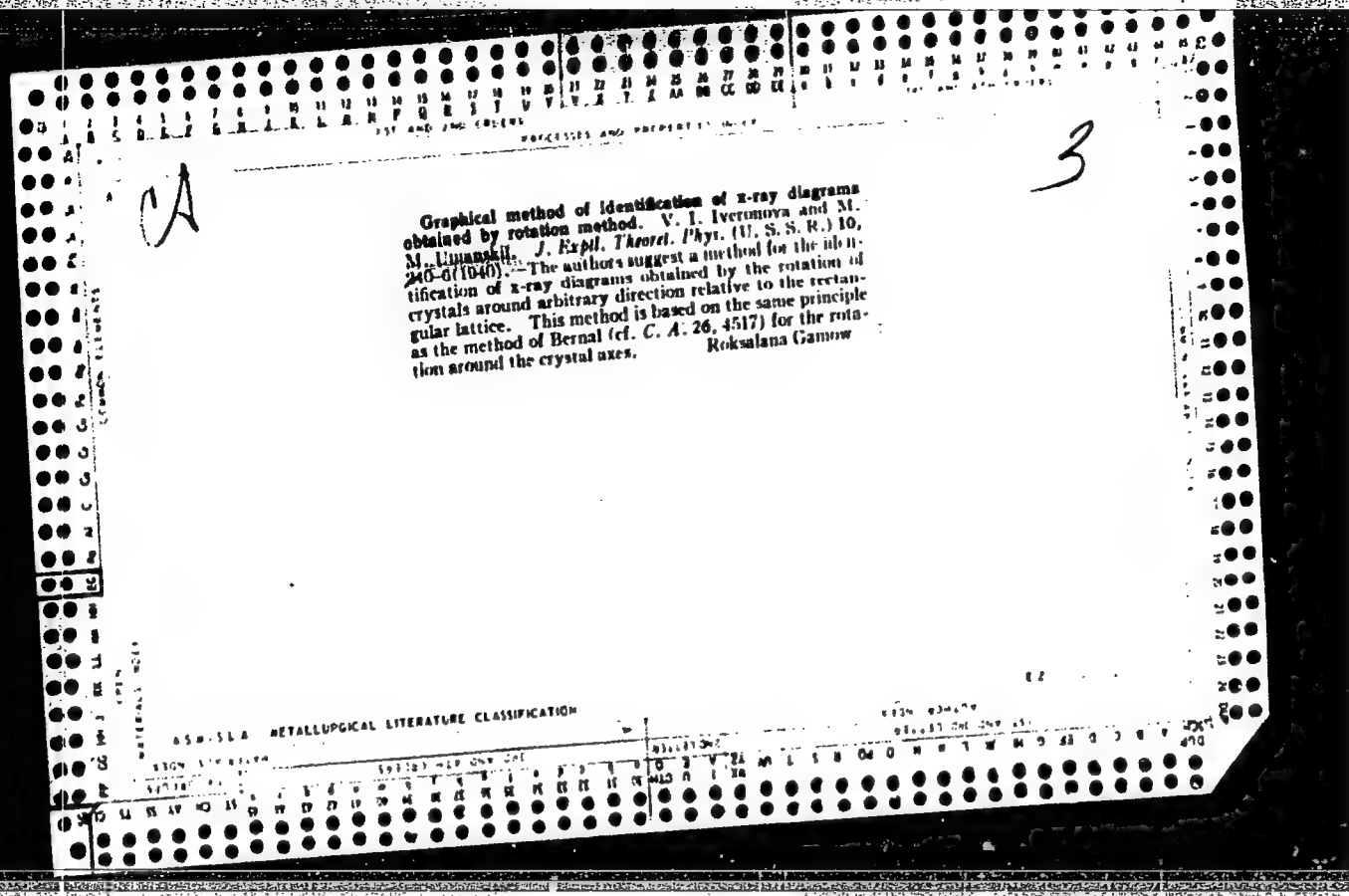
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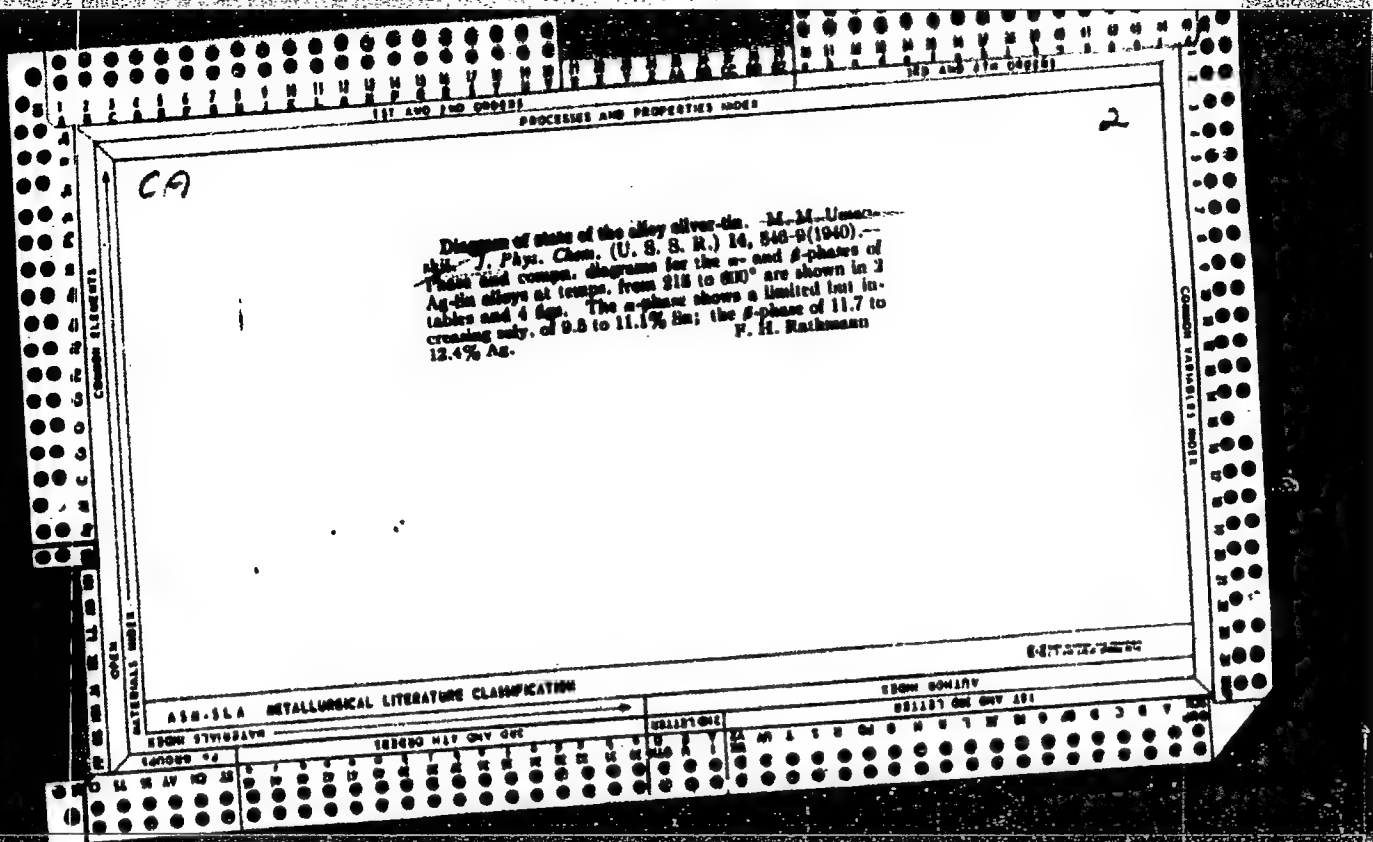
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1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
PROCESSES AND PROPERTIES INDEX																										PROCESSES AND PROPERTIES INDEX																									
<p>Rapid Methods of Exposure in X-Ray Structure Analysis. M. M. Umanaky (Zirod. Lab., 1940, 8, (8), 869-871).—[In Russian]. Focusing methods are described.—N. A.</p>																																																			
ASR-51A METALLURGICAL LITERATURE CLASSIFICATION																										ASR-51A METALLURGICAL LITERATURE CLASSIFICATION																									
1ST COLUMN																										2ND COLUMN																									
3RD COLUMN																										4TH COLUMN																									





UMANSKIY, M. M.

Moscow

Laboratory of Metallophysics, Scientific Research Institute of
Physics, Moscow State University, (-1940-).

The Problem of the Diagrammatic Representation of the Composition
of the Alloy Ag-Sn."

Zhur. Fiz.Khim., Vol. 14, No. 5-6, 1940.

M

1

A CONTRIBUTION TO THE MECHANISM OF CONDENSING METALS (ZINC, CADMIUM, MAGNESIUM, AND BERYLLIUM) FROM VAPOURS. S. KONOHEVSKY AND M. UMANSKY (J. PHYSICS (U.S.S.R.) 1946, 10 (4) 388) (In English) Thin layers of zinc, cadmium, magnesium, and beryllium, produced by condensation in vacuo, exhibit orientations varying over the surface according to the angle of incidence of the molecular beam. For a normally incident beam of zinc atoms, an axially symmetrical texture is formed; the hexagonal axis of the zinc crystal is normal to the surface. For oblique beams, the (100) plane coincides with the plane passing through the direction of the beam and that of the normal to the surface. The hexagonal axis lies in this plane. It is suggested that crystalline nuclei are formed before contact is made with the surface upon which the metal is condensed. GVR

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<div style="display: flex; justify-content: space-between;"> M 3 </div> <p>Determination of the Limiting Thicknesses of Material Giving Rise to Debye X-Ray Photographs. M. M. Umansky and M. P. Shaakof'skaya (Zhur. Tekhn. Fiziki, 1946, 18, (11), 1283-1290).—[In Russian]. The max. and minimum thickness of the layers of material which take part in the formation of Debye photographs was determined experimentally. It is shown that this thickness can be obtained by the use of a simple formula connecting the thickness of the metal with the absorption coeff. The constants in the formula are given.—N. A.</p>																																																			
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2

Texture of condensed metal films. M. M. Umanovskii and A. T. Koncheyevskii (Moscow State Univ.). *Zhur. Khim. Fiz.* 17, 405-1A(1947).—Films of Zn produced by condensation from a mol. beam of evapor. metal show a peculiar structure, with different parts of the beam reflecting specularly under different angles. This property is linked with a certain pattern of distribution of the orientation of the crystallites. By reflection debyograms, this orientation varies regularly over the surface of the film, depending on the angle β between the normal at the given point and the direction of the mol. beam. Axial-symmetrical orientation with the $[100]$ axis coinciding with the normal to the surface is found only at the point of normal incidence of the beam ($\beta = 0$). In all other points, the (100) plane lies in the plane comprising the normal to the point and the mol. beam; the direction of the hexagonal axis $[001]$ lies in that plane, forming a certain angle $\Delta\theta$ with the beam, depending on the angle β at that point. The angle between the hexagonal axis and the normal is greater than β . The crystallite orientation

of the whole of the specimen possesses axial symmetry. The observed pattern cannot be due to a max. growth of crystals in the direction of the mol. beam as this would result in the $[100]$ direction coinciding with the beam. An explanation lies in a sort of "refraction" of the beam near the surface of the beam, brought about by frequent reflections, i.e. evapns. of atoms having hit the surface, and by elastic collisions, creating an atm. of crystal germs at some distance from the surface. Formulation of this "refraction" leads to the relation $\tan \Delta\theta = \tan \theta_0 (1 - e) / (1 + e)$, where e = ratio of the dc. at a distance from the film and near its surface, θ = angle between $[100]$ and the normal to the surface, and $\theta_0 = \theta - \Delta\theta$. This relation accounts for the observed relation between $\Delta\theta$ and θ , but not for the particular position of the (100) plane.

N. Thom

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PROCESSES AND PROPERTIES INDEX																			
<p><i>A</i></p> <p>Crystal structure of dinitronaphthalenes. I. X-ray determination of the unit cell and the space group of 1,8-dinitronaphthalene crystals. O. S. Zhidakov and M. M. Umanskii. <i>J. Phys. Chem. (U.S.S.R.)</i> 21, 523-4 (1947) (in Russian); cf. preceding abstr. and <i>C.A.</i> 40, 4931⁶.—1,8-Dinitronaphthalene crystallizes in the orthorhombic system; $a = 11.20$, $b = 16.15$, $c = 8.40$ Å. The unit cell contains 4 mols. Density observed is 1.46; d. calcd. from the unit cell, 1.53. The space group is D_2h — $P2_12_12_1$. II. X-ray determination of the unit cell and the space group of 1,5-dinitronaphthalene crystals. N. O. Sevast'yanov, O. S. Zhidakov, and M. M. Umanskii. <i>Ibid.</i> 525-7 (1947).—The crystals belong to the monoclinic system; $a = 7.81 \pm 0.02$, $b = 16.02 \pm 0.04$, $c = 3.62 \pm 0.01$ Å; $\beta = 101^\circ 30'$. The unit cell contains 2 mols. Density is 1.62 (observed) and 1.63 (calcd.). The space group is C_2h-$P2_1/c$. Orthorhombic twins along (100) are frequent. The mols. are almost parallel to the plane (001). I. J. Bikerman</p> <p><i>Physics Inst. im. Karlov -</i></p>																			
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18

CAMERAS FOR X-RAY STRUCTURAL ANALYSIS OF MONOCRYSTALS.
 Yu. A. Bagaryatskii and M.M. Umanskii. (Zavodskaya
 Laboratoriya, 1948, vol 14, June, pp. 698-702). (in Russian).
 The principles and construction of a number of cameras used
 in the U.S.S.R. for X-ray studies of crystal structure are
 described and the orientation of monocrystals is considered.

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

SUBJECT INDEX		AUTHOR INDEX		TITLE INDEX		DESCRIPTORS		SYNOPSIS		REFERENCES		CROSS-REFERENCES		OTHER INDEXES	
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BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF
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BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX
BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN
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BU															

UNAMSKIY, M. M.

USSR/Physics

Jun 48

Crystals - Structure

Crystals - Measurements

"Cameras for X-Ray Structure Analysis of Monocrystals," Yu. A. Bagaryatskiy, M. M. Unamskiy, Inst of Phys, Moscow Order of Lenin State U imeni M. V. Lomonosov, 10 pp

"Zavod Lab" Vol XIV, No 6

Describes (1) universal X-ray camera for taking rotation X-ray photographs; (2) camera for determining identity periods of a crystal. Photographs and diagrams.

PA 14/49T108

16

B

X-Ray Camera for Precision Measurements of Crystals.
 (In Russian.) M. M. Umanakii, S. S. Kvitka, and
 Yu. A. Bagaryatskii. *Zavodskaya Laboratoriya*
 (Factory Laboratory), v. 14, Nov. 1948, p. 1343-1350.
 Describes a special camera for precision measure-
 ment of monocrystalline lattices. Critical investi-
 gation indicates a series of advantages for this
 apparatus as compared to those commonly used.

ANN. S. L. A. METALLURGICAL LITERATURE CLASSIFICATION

SECTION: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

UMANSKII, M. M.

N. G. Sevast'ianov, G. S. Zhdanov, and M. M. Umanskii, "The crystal structure of dinitronaphthalenes. III. The determination of the structure of the crystal of 1,5-dinitronaphthalene ($C_{10}H_6N_2O_4$). Pp. 1153-63.

Configuration of molecules in the unit cell of a 1,5-dinitronaphthalene crystal was established by geometrical analysis, by construction of graphs of the structural amplitude and by comparing these with the experimental intensities of interferences which have been found by investigating the distribution of the electron density (by the Fourier-synthesis method).

The Karpov Physico-Chemical Inst.
X-ray Laboratory, Moscow
March 19, 1948

SO: Journal of Physical Chemistry (USSR) 22, no. 10, 1948

UMANSKIY, M. M.

153T86

USSR/Physics - Camera, X-Ray
Crystallography

Nov 49

"X-Ray Camera for Photographing an Inverse Lattice,"
Yu. A. Bagaryatskiy, M. M. Umanskiy, Moscow State U,
8 1/2 pp

"Zavod Lab" No 11

Explains method of obtaining nondistorted image of
surfaces of inverse lattice. Describes construction
of camera in detail. Includes six diagrams and four
photographs.

153T86

16

13

X-Ray Camera for Photographing Inverse Lattices.
 (In Russian.) Yu. A. Bagaryatskii and M. M. Umanakii.
 Zavodskaya Laboratoriya (Factory Laboratory), v. 15,
 Nov. 1949, p. 1320-1328.

Describes newly developed X-ray diffraction camera
 for investigation of crystal structure. Theoretical
 bases are indicated. Structural details are illustrated
 by a schematic drawing and photographs.

151 AND 152 ORDERS

PROCESSING AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON PHYSICAL PROPERTIES

151 AND 152 ORDERS

PROCESSING AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON PHYSICAL PROPERTIES

UMANSKIY, M. N.

USSR/Chemistry - Naphthalenes
Chemistry - Crystalline Structure

Jan 49

"Crystalline Structure of Dinitronaphthalenes: IV. Determining the Structure of a Crystal of 2,6-Dinitronaphthalene," Ye. A. Shugam, M. N. Umanskiy, G. S. Zhdanov, X-Ray Lab, Physicochem Inst imeni L. Ya. Karpov, Moscow, 10 pp

"Zhur Fiz Khim" Vol XXIII, No 1

For organic structures in which molecule is elementary particle of crystal formation, determination of structure consists of three stages: (1) Determination of Magnitude, form and type of elementary nucleus; (2) determination of condition of molecules' centers, and steric orientation of molecules in space of elementary nucleus; and (3) determination of the molecule. Gives table of molecules with data of adjacent atoms, graphs and illustrations of experimental results, Submitted 21 Apr 48.

PA 48/49T25

UMANSKIY, M. M.

US: R/Physics-X-Ray Analysis
X-Ray Cameras

Jun 59

"X-Ray Methods of Adjusting Crystals," S. S. Kvitka, Yu. N. Sokurskiy,
M. M. Umanskiy, Moscow State U

"Zavod Lab" Vol XVI, No 6, pp 696-705

Describes X-ray methods for adjusting crystals of any syngony by x-ray
photographs of oscillations or Lave patterns. Suggests more expedient
construction of film holder and goniometric head for X-ray camera.

PA 163785

SA										A 548									
3204. X-ray goniometry from polychromatic exposures of a stationary crystal. S. S. KUTIKY AND M. M. URBANOV. <i>J. Tech. Phys., USSR</i> , 20, 901-9 (Aug., 1950) In Russian.																			
Method permits of finding from 3 Laue-grains all important directions of the direct and inverse lattices, determining the crystal system and the orientation of its main axes independent of the external shape of the crystal and its symmetry. From the size of the "blind" regions on the Laue-grain the values of the periods of identity can be found. From a Laue-grain taken with mixed radiation of an orientated crystal the identity period may be calculated along one of the crystal axis. B. L. KRATKY																			
ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION										FROM SOURCE									
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100000 *										100000 *									

CA

2

X-ray study of the crystal structure of 1,3-naphthalene-
diamine, $C_{10}H_8NH_2$. N. G. Sevast'yanov and M. M.
Ushakov (Kazany Inst. Phys. Chem., Moscow). *Zhur.*
For Khim. 24, 468-9 (1950); cf. *C.A.* 44, 1286d. Cry-
stals grown in satd. aq. soln. were monoclinic; $a = 21.70$, b
 $= 10.73$, $c = 3.08$, $\beta = 104^\circ$, $d = 1.4$. The space group was
 C_{2h}^2 , $Z = 2$, and the unit cell contained 6 mols. As 6
identical mols. cannot be placed in this cell, 2 mols. must
be different from the rest. Unexpectedly $C_{10}H_8NH_2$
was well sol. in H₂O and poorly sol. in benzene, toluene,
etc.
J. J. Bikerman

UMANSKIY, M. M.

FA 187T86

USSR/Physics - X-ray Analysis of Materials Mar/Apr 51

"X-ray Analysis of Facetless Crystals," M. M. Umanskiy, S. S. Kvitka, Sci Res Inst of Phys, Moscow State U imeni Lomonosov

"Iz Ak Nauk SSSR, Ser Fiz" Vol XV, No 2, pp 147-156

For subject analysis, stereographic projection of direct and inverse crystal lattice is used. This projection is obtained from 3 polychromatic Laue-grams. Results tabulated. Submitted at 3d All-Union Conference on Use of X-rays in Study of Materials held 19-24 Jun 50 in Leningrad.
LC 187T86

PA 187T88

Mar/Apr 51

UMANSKIY, M. M.

USSR/Physics - Rare Earths

"Investigations of the structures of Some Compounds of Rare-Earth Elements," V. I. Iveronova, V. P. Tarasova, M. M. Umanskiy, Res Inst of Phys, Moscow State

"Iz Ak Nauk SSSR, Ser Fiz", Vol XV, No 2, pp 164-168

Obtained size and shape of elementary cells of some compds of the cerium group by X-ray analysis. Detd spatial groups and location of heavy atoms in some compds and tabulated results. Authors were assisted by I. D. Borneman-Starinkevich, S. S. Kvitka and A. A. Stepanova. Submitted at 3d All-Union Conference on Use of X-rays in Study of Materials held 19 - 24 Jun 50 in Leningrad.

FA 187T96

UMANSKIY, M. M.

USSR/Physics - X-ray Photography

Mar/Apr 51

"X-ray Camera for Rapid Photography of Polycrystals," S. S. Kvitka, M. M. Umanskiy, Phys Faculty, Moscow State U imeni Lomonosov

"Iz Ak Nauk SSSR, Ser Fiz" Vol XV, No 2, pp 271-276

Describes camera for rapid photography of polycrystals. It operates on any type of tube and on std tubes BSV. Gives formulas and graphs for computing the angles of sample positions. Submitted at 3d All-Union Conference on Use of X-rays in Study of Materials held 19 - 24 Jun 50 in Leningrad.

LC

187T96

GOL'DER, G.A.; UMANSKIY, M.M.

Goniometric and X-ray analysis of crystals of 1,3,8-trinitronaphthalene. Zhur. Fiz.Khim. 25, 555-6 '51. (MLRA 4:5)
(CA 47 no.17:8457 '53)

1. L.Ya.Karpov Phys.-Chem. Inst., Moscow.

UMANSKIY, M. M.

USSR/ Physica - Monochromatic X-ray Sources

"Camera-Monochromator for Photographing Polycrystals (KMSF)," S. S. Kvitka, Ye, V. Kolontsova, M. M. Umanskiy, Sci Res Inst of Phys, Moscow State U Ineni Lomonsov

"Iz Ak Nauk SSSR, Ser Fiz" Vol 16, No 3, pp 372-385

Report heard at the conference on powerful monochromatic x-ray sources, held at Khar'kov 24-27 Jan 52. The purpose of the present work was to create a device, a camera-chromator, intended for x-ray photographing of polycrystalline samples in comparatively soft radiation (Cu, Ni, Co, Fe), in which a bent monocrystal is employed in the camera for monochromatizing the radiation and use is made of the methods of focusing x-ray reflections. Describe selection of the crystal and its parameters and peculiarities of photographing in vacuo.

232T108

UMANSKIY, M.M.

USSR.

The structure of layers of magnesium, zinc, and cadmium produced by the condensation of molecular beams. N. T. Melnikova, E. D. Shchukin, and M. M. Umanskiy. *Zhur. Eksp. i Teor. Fiz.* 22, 775-9(1953); *Science Abstr.* 56A, 278-7(1953).—X-ray analysis shows that the crystals produced by a mol. beam condensing on a surface have parallel orientations with the hexad axis in the plane of incidence of the beam but making a greater angle with the normal than the angle of incidence. Curves of this angle are given for all 3 metals for an uncooled surface and for a surface to -70° .

K. L. C.

62
2

UMANSKIY, M. M.

USSR/Chemistry - Benzene and Naphthalene Derivatives Sep 52

"X-Ray Investigation of the Crystals of Certain Nitro and Halogen Derivatives of Benzene and Naphthalene," G. A. Gol'der, G. S. Zhdanov, M. M. Umanskiy, and V. P. Glushkova, Phys-Chem Inst im L. Ya. Karpov, Moscow

Zhur Fiz Khim, Vol 26, No 9, pp 1259-1265

Obtained crystals and detd elementary cells and spatial groups of the following compds: 1,8-dichloronaphthalene; 2,6-dichloro-1-nitrobenzene; 2,4,6-tribromo-1-nitrobenzene; benzophenone; and 1,3,6,8-tetranitronaphthalene (I). Checked elementary cells 263716

and spatial groups of the crystals of 1,3,5-trinitrobenzene and 2,4,6-trinitrotoluene (II). In the crystals of (I) and (II), certain interference abnormalities were detected, indicating the presence of periodic two-dimensional disturbances in the regular distribution of atomic planes.

263716

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4

UMANSKY, M. M.

184

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4

UMANSKIY, M. M.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4"

LIMANSKIY, M. M.

USSR 3

Isomorphism and morphotropy of molecular crystals.
 UEA, (E = P, Sb; U = S, Se; A = CH, p-CH₃, CH₃).
 G. S. Zolotarev, V. A. Porpchev, M. M. Limanskiy and V. P.
 Glushkova. *Doklady Akad. Nauk S.S.S.R.*, 92, 1981-5
 (1982). -- Crystals of the above type comp. P and Sb (I)
 are colorless and needlelike and leaflike, resp. Free mols.
 have the configuration of a trigonal bipyramid and sym.
 axes of the 3rd order. In the crystal state they belong to the
 monoclinic class, each unit cell contains 4 mols. Action
 of x-rays on I causes a yellow color. Morphotropic changes
 are observed when Ph is replaced by p-CH₃Me. Substitution
 of atom H causes isomorphous changes only when there
 are large discrepancies in at. radii (C.A. 5, 7-14c).
 Michael Lynicky

UMANSKIY, M. M.

USSR/Solid State Physics - Structural Crystallography, E-3

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34616

Author: Umanskiy, M. M., Kvitka, S. S.

Institution: None

Title: Certain Method Problems in X-Ray Crystallography

Original Periodical: Trudy in-ta kristallogr. AN SSSR, 1954, 168-176

Abstract: None

1 of 1

- 1 -

UMANSKIY, M.M.

"Some Methodological Questions in Roentgen-Crystallography." b' M.M. Umanskiy.
pp. 383-391.

SO: Work of the Inst of Crystallography, Issue #10, (Reports submitted at
the 3rd International Congress of Crystallography; published by the
Acad Sci USSR, Moscow, 1954)
c

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4

IMANSKIV M.M.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001857930004-4"

Uchimov, A. I.

Category: USSR / Physical Chemistry - Crystals

B-5

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29673

Author : Zhdanov G. S., Umanskiy M. M., Varfolomeyeva L. A., Yezhkova Z.I., Zolina Z. K.

Inst : not given

Title : Roentgenographic Determination of Unit Cells and Spatial Groups of Piezoelectric Crystals: $\text{KLiC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$, $\text{NH}_4\text{LiC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$, $\text{NaHC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$ and $(\text{NH}_4)_2\text{C}_4\text{H}_4\text{O}_6$.

Orig Pub: Kristallografiya, 1956, 1, No 3, 271-273

Abstract: Precise measurements of lattice parameters were carried out on monocrystals by means of roentgenograms obtained with a RKU-114 camera, without thermostatic controls, at room temperature; Fedorov groups were determined from kforograms. For $\text{KLiC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$ (I) a 7.839, b 14.318, c 6.326 kX; β 2.01; Z = 4; F.gr. $P2_12_12$; $\text{NH}_4\text{LiC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$ (II) 7.860, 14.615, 6.414 kX; 1.73; 4; $P2_12_12$; $\text{NaHC}_4\text{H}_4\text{O}_6 \cdot \text{H}_2\text{O}$ 8.663, 10.580, 7.230 kX; 4; $P2_12_12$; $(\text{NH}_4)_2\text{C}_4\text{H}_4\text{O}_6$ 7.067, 6.116, 8.790 kX; β 92°25', 1.608; 2; $P2_1$. Crystals of I and II are isomorphous. Lattice parameters of II were determined twice (RZhKhim, 1955, 39570).

Card : 1/1

-13-

UMANSKIY, M.M.

USSR / Structural Crystallography.

E-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9183

Author : Zubenko, V.V., Umanskiy, M.M.

Inst : Moscow State University

Title : X-ray Diffraction Determination of the Coefficients of Thermal Expansion of Polycrystalline Substances in the Range from -50 to +100° C.

Orig Pub : Kristallografiya, 1956, 1, No 4, 436, 441

Abstract : Description of an X-ray-focusing camera for precision determination of the parameters of the elementary cell of polycrystalline substances in the range from -50 to +100° C. The entire camera together with the specimen and the film are placed in a thermostatic bath. A method of determining the effective diameter of the film by placing light marks on the film at the temperature of investigation is indicated. Examples of the determination of the coefficient of thermal expansion of aluminum and bismuth are given.

Card : 1/1

UMANSKIY M.M.; KHEYKER, D.M.

X-ray-goniometric methods for examination of crystals. Kristallografiia 1 no.4:446-459 '56.
(MLRA 10:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova,
Vsesoyuznyy nauchno-issledovatel'skiy institut ASBESTTseMENT
Ministerstva promyshlennosti stroitel'nykh materialov.
(X-ray crystallography) (Goniometry)

UMANSKIY, MOISEY MIKHAYLOVICH

N/5
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Puti Snizheniya Sebestoimosti Dobychi Nefti (Means of Decreasing the Cost of extraction of oil) Moskva, Gostoptekhizdat, 1957.

101 p. Illus., Diags., Tables
(V Pomoshch' Ekonomicheskomu Obrazovaniyu Neftyanykh)
Bibliographical footnotes.

UMANSKIY, M.M.

USSR/Morphology of Man and Animals-(Normal and Pathologic).
Research Methods and Technique.

S-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 12306

Author : Umanskiy, M.M.

Inst :

Title : The Apparatus and Methods of the Roentgenostructural
Studies.

Orig Pub : Avtoref. diss. dokt. fiz.-matem. n., In- kristallogr.
AN SSSR, M., 1957

Abstract : No abstract.

Card 1/1

UNANSKIY 11-11.

USSR/Laboratory Equipment - Instruments, Their Theory,
Construction and Application.

H.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19764

Author : V.V. Zubenko, M.M. ^MUnanskiy.

Title : X-ray Determination of Thermal Expansion Factor of
Polycrystalline Substances in Interval Between -50 and
100°.

Orig Pub : Kristallografiya, 1956, 1, No 4, 436-441

Abstract : The x-ray focussing camera for precise determination of
parameters of elementary cells of polycrystalline sub-
stances in the interval from -50° to +100° is described.
The complete camera together with the specimen and film
is thermostatic. The way how to determine the effective
film diameter by making light marks on films at the re-
search temperature is shown. Examples of determination
of thermal expansion factors of Al and Bi are cited.

Card 1/1

- 5 -

Umanskiy, M.M.
USSR / Solid State Physics / Structural Crystallography

E-4

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11597

Author : Umanskiy, M.M., Rheyker. D.M.

Inst : -

Title : X-ray Goniometric Methods for the Investigation of
Crystals.

Orig Pub : Kristallografiya, 1956, 1, No.4, 446 - 459

Abstract : Comparison is made of photographic and ionization variants of X-ray goniometric measurements. It is shown that for photographic registration it is more convenient to employ a layer by layer investigation of the reciprocal lattice. For ionization measurements, it is more advisable to use orderly registration of the sites of the reciprocal lattice. The authors examine and compare various principal schemes of ionization diffractometers. The regions in which it is efficient to employ various variants of X-ray

Card: 1/2

USSR / Solid State Physics / Structural Crystallography

E-4

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11597.

Abstract : goniometric methods are shown. A method is proposed for registration of the entire possible interference field with the aid of the URS-50 apparatus, equipped with a special attachment for the GUR-3, which converts the URS-50 into a diffractometer for single crystals.

Card: 2/2

U M A N S K I Y, M. M.

AUTHOR: Zhdanov, G.S., Zhuravlev, N.N., Stepanova, A.A. and
Umanskiy, M.M. 70-2-16/24

TITLE: The crystal chemistry of metal hexaborides. (Kristallo-
khimiya gekhsaboridov metallov)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2,
No.2, pp. 289-290 (U.S.S.R.)

ABSTRACT: The MeB_6 structure consists of a three-dimensional frame-

work of B atoms with Me atoms in the interstices and is formally like the CsCl structure with B_6 and Me units. In group II, Be, Mg, Ca, Sr and Ba form hexaborides as do Y, La, Ce, Pr, Nd, Gd, Er, Yb in group III. The formation by the remaining lanthanides and by Sc of hexaborides can also be predicted. In group IV, SiB_6 and ThB_6 are known. When the unit cell sizes are plotted against atomic radii the compounds fall into three series corresponding to the three groups. Coefficients of thermal expansion of CaB_6 and SiB_6 have been measured by X-ray diffraction (5.9 and 6.5×10^{-6} , respectively) and are added to the measurements already made (A.A. Stepanova and M.M. Umanskiy, Trudy soveshchaniya po khimii bora i ego soedineniy. Fiz.-Khim. in-t. im. Karpova, 1955) for Ce, La and Ba (7.3 , 6.4 and 6.8×10^{-6} , respectively). The coefficient

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70-2-16/24

The crystal chemistry of metal hexaborides. (Cont.)

for Ce appears to be anomalous.

There are 4 figures and 8 references, 6 of which are Slavic.

ASSOCIATION: Moscow State University. (Moskovskiy Gosudarstvennyy
Card 2/2 Universitet)

SUBMITTED: October 8, 1956.

AVAILABLE: Library of Congress

umanskiy, M.M.

70-4-10/16

AUTHORS: Zubenko, V.V. and Umanskiy, M.M.

TITLE: X-ray Determination of the Thermal Expansion of Single Crystals. (Rentgenograficheskoye opredeleniye termicheskogo rasshireniya monokristallov).

PERIODICAL: Kristallografiya, 1957, Vol.2, Nr 4, pp.508-513 (USSR).

ABSTRACT: Two X-ray single-crystal goniometers fitted with arrangements for heating the specimen to a precisely determined temperature and measuring its lattice constants with high accuracy are described. The first is developed from the ordinary Soviet oscillation camera (PKB) and will operate up to 400 C. Reflections are recorded only near the equator with a maximum θ value of 84 C. A cylindrical furnace, electrically heated, surrounds the specimen and is insulated from the film by asbestos cement and by air. The film is mounted on a massive, water-cooled former. A glass collimator (65 mm long and 0.4 mm i.d.) is used to eliminate the thermal conduction which a metal one would permit; the exposure time is reduced by a factor of 1.5-2. A set of thermocouples working into an automatic potentiometer serve to stabilise the temperature to some tenths of a degree. The other camera has a liquid jacket surrounding the specimen

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70-4-10/16

X-ray Determination of the Thermal Expansion of Single Crystals.

and a cassette of 11.4 cm diameter. The jacket is supplied from an external thermostat bath, the circuit incorporating, if necessary, a vessel containing melting ice. A thermocouple close to the specimen is used as before for temperature regulation. The mechanical part of the camera is like that of the Soviet model PKB-86. A temperature range of -50 to 85 C can be covered. Averaged over the range 20-270 C the coefficients of expansion of corundum were found to be $5.6 \pm 0.1 \times 10^{-6}$ perpendicular to the axis and $6.6 \pm 0.1 \times 10^{-6}$ parallel to the axis. $a = 4.7483 \pm 0.0001$ and $c = 12.963 \pm 0.001$ KX at 22 C. For $\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$ at 20-22 C

$a = 5.455 \pm 0.002$ and $c = 8.1675 \pm 0.0006$ KX. In the c-direction the expansion coefficient is $15.6 \pm 0.5 \times 10^{-6}$. β does not change with temperature to $\pm 5^\circ$ and is 107.58° . For d-potassium tartrate the dimensions were found (by Z. I. Ezhkova) to be $a = 15.458 \pm 0.004$, $b = 5.038 \pm 0.002$, $c = 20.054 \pm 0.002$ KX, $\beta = 90^\circ 50'$. The expansion coefficient $\alpha_{33} = 31.5 \pm 1.0 \times 10^{-6}$.

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70-4-10/16

X-ray Determination of the Thermal Expansion of Single Crystals.

There are 6 figures and 10 references, 5 of which are Slavic.

ASSOCIATION: Moscow State University im. M.V.Lomonosov.
(Moskovskiy Gosudarstvennyy Universitet im. M.V.Lomonosova)

SUBMITTED: February 22, 1957.

AVAILABLE: Library of Congress.

Card 3/3

Uman S.H., M.M.

AUTHORS: Kvitka, S.S. and Umanskiy, M.M. 70-5-27/31

TITLE: An X-ray Camera PKM-114 for the Precision Measurement of the Elementary Cell Parameters of Single Crystals (Rentgenovskaya kamera dlya pretsizionnykh izmereniy parametrov elementarnoy yacheyki na monokristallakh RKM-114)

PERIODICAL: Kristallografiya, 1957, Vol.2, No.5, pp. 702 - 704 (USSR)

ABSTRACT: A new X-ray diffraction camera with a film diameter of 11.459 cm has been constructed to use 35 mm X-ray film and to accommodate the standard Russian goniometer heads (types 2 and 2b) which are used for single crystal work. Provision for oscillating the crystal over present ranges is made. The camera is mounted with the axis of rotation horizontal and can be used on the YPC-70 X-ray tube. The general design of the X-ray optical system seems similar to that of the North American Philips 11.5 powder camera. (Assembly drawings reproduced). There are 2 figures and 2 Slavic references.

ASSOCIATION: Moscow State University im. M. V. Lomonosov (Moskovskiy Gosudarstvennyy Universitet im. M. V. Lomonosova)

SUBMITTED: September 13, 1956.

AVAILABLE: Library of Congress
Card 1/1

UMANSKIY, M. M.

Dissertation:
"Apparatus and Method of X-Ray Structural Investigations," Zavodskaya Laboratoriya,
1957, Vol. 23, Nr 9, pp. 1143-1143 (USSR).

AUTHOR: None given

30-12-32/45

TITLE: Defense of Dissertations (Zashchita dissertatsii)
(January - July 1957) (Yanvar' - iyul' 1957 g.)
Section of Physical-Mathematical Sciences
(Otdeleniye fiziko-matematicheskikh nauk)

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 12, pp. 108-109 (USSR)

ABSTRACT: At the Institute for Acoustics (Akusticheskiy institut) the degree of Candidate of Physical-Mathematical Sciences was applied for by: V. I. Tatarskiy - Micro-inequalities of the temperature field and phenomena of fluctuation in the preparation of waves in the atmosphere (Mikroneodnorodnosti temperaturnogo polya i flyuktuatsionnyye yavleniya pri rasprostraneni voln v atmosfere).
At the Institute for Crystallography (Institut kristallografii) the degree of Doctor of Physical-Mathematical Sciences was applied for by: M. M. Umanakiy - Apparatus and methods of radio-structural investigations (Apparatura i metodika rentgenostrukturnykh issledovaniy).
At the Institute for Atmospheric Physics (Institut fiziki atmosfery) The degree of Doctor of Physical-Mathematical

Card 1/5

30-12-32/45

Defense of Dissertations (January - July 1957)
Section of Physical-Mathematical Sciences

Sciences was applied for by: L. N. Gutman - On the thermal convection due to the vertical instability of the atmosphere (O termicheskoy konveksii, obuslovlennoy vertikal'noy neustoychivost'yu atmosfery), Ye. V. Pyaskovskaya-Fasenkova - Investigation of the dispersion of light in the atmosphere of the earth (Issledovaniye rassseyaniya sveta v zemnoy atmosfere).

At the Institute for Earth Physics: (Institut fiziki Zemli)
The degree of Doctor of Technical Sciences was applied for by: Ye. S. Borisevich - Electro-magnetic oscillographs for experimental geophysical research (Magnitoelektricheskiye ostsillografiy dlya eksperimental'nykh geofizicheskikh issledovaniy). The degree of Candidate of Physical-Mathematical Sciences was applied for by: E. I. Parkhomenko - Piezoelectric effect of rock (P'yezoelektricheskiy effekt gornyykh porod). I. I. Rokityanskiy - Caused polarization of ion-conductive rock (Vyzvannaya polyarizatsiya ionnoprovoodyashchikh porod). V. A. Romanyuk - Determination of the force of gravity on the sea by means of the pendulum method (Opredeleniye sily tyazhesti na more nayatnikovym sposobom).

Card 2/5

30-12-32/45

Defense of Dissertations (January - July 1957)
Section of Physical-Mathematical Sciences

problem for elliptical equations (O zadache Koshi dlya ellipticheskikh uravneniy). A. N. Tavkhelidze - Methods of the field theory in the problems with fixed nucleon source (Metody teorii polya v zadachakh s fiksirovannym nuklonnym istochnikom). P. I. Chushkin - Computation of some potential secondary sound flows of gas (Raschet nekotorykh okolozvukovykh potentsial'nykh techeniy gaza). Yu. D. Shmyglevskiy - Variation problem of the gas dynamics of axially-symmetric supersonic flows (Variatsionnaya zadacha gazodinamiki osesimmetrichnykh sverkhzvukovykh techeniy). Yu I. Yanov - On the qual significance and transformation of the scheme of the program (O ravnosil'nosti i preobrazovaniyakh skhem programm).

At the Institute for Physics and Technical Sciences (Fiziko-tekhnicheskiy institut) The degree of Doctor of Physical-Mathematical Sciences was applied for by: A. Ye. Clauberman - Some problems concerning the kinetic theory of the systems of interacting particles (Nekotoryye voprosy kineticheskoy teorii sistem vzaimodeystviyushchikh chastits). The degree of Candidate of Physical-Mathematical Sciences was applied for by: V. V. Afrosimov - Atomic ionization of

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Defense of Dissertations (January - July 1957)
Section of Physical-Mathematical Sciences

30-12-32/45

inert gases by positive mono-charged ions with an energy of 3 - 180 K·B (Ionizatsiya atomov inertnykh gazov odnozaryadnymi polozhitel'nymi ionami s energiyey 3 - 180 K·B). V. S. Gvozdev - Investigation of nuclear isometry Hf^{180} (Issledovaniye yadernoy izomerii Hf^{180}). K. A. Dalmatova - Beta-longitudinal spectrometer with compensated spherical aberration (Prodol'nyy betaspektrometr s kompensirovannoy sfericheskoy aberratsiyey). B. V. Sokolov - The effect produced by iodine on the electric and photoelectric properties of selenium (Vliyaniye yoda na elektricheskkiye i fotoelektricheskkiye svoystva selena).

AVAILABLE: Library of Congress

1. Acoustics 2. Crystallography 3. Physics 4. Mathematics

Card 5/5

S/137/60/000/02/C5/010

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No 2, p 92, # 2782

AUTHORS: Stepanova, A.A., Umanskiy, M.M.

TITLE: Parameters of the Unit Cells of Metal Hexaborides

PERIODICAL: V sb.: Bor. Tr. Konferentsii po khimii bora i yego soyedineniy,
Moscow, Goskhimizdat, 1958, pp 102 - 105

TEXT: Information is given on results of roentgenographic investigations into temperature dependence of the parameters of Ba¹, La¹, Ce¹ hexaboride unit cells at 500 - 810°C. Mean values of the coefficients of thermal expansion determined on the basis of data obtained are for BaB₆ $6.8 \cdot 10^{-6}$, for LaB₆ $6.4 \cdot 10^{-6}$ and for CeB₆ $7.3 \cdot 10^{-6}$.

A.P.

Card 1/1

SOV/70-3-1-7/26

AUTHORS: Umanskiy, M.M., Kheyker, D.M. and Volkov, O.S.

TITLE: Procedure for the Use of the URS-50I Apparatus as a Monocrystal Diffractometer (Priyemy ispol'zovaniya apparata URS-50I kak diffraktometra dlya monokristallov)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 1, pp 43 - 48 (USSR)

ABSTRACT: The URS-50I apparatus was designed for X-ray structural analysis with ionisation-counter recording and was described by Ioffe in Ref 1. The present paper describes a method for converting this apparatus into a monocrystal diffractometer. A description is given of an attachment which can be used to determine the relative orientation of the crystal and the counter. A procedure is given for the adjustment of the crystal; determination of the parameters of the elementary cell and measurement of the integrated reflection intensity. The integrated reflection intensity is measured by a method analogous to that described by Cochran in Ref 4 and the counter resolving time is measured by an oscillographic method described by Klug et al in Ref 3. Geiger counters are used as detectors but it is intended to use scintillation and proportional counters.

Card1/2

SOV/70-3-1-7/26

Procedure for the Use of the URS-50I Apparatus as a Monocrystal
Diffractometer

There are 5 figures, and 5 references, 2 of which are
Soviet and 3 English.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.
M.V. Lomonosova (Moscow State University imeni
M.V. Lomonosov)
VNIISBESTTsEMENT

SUBMITTED: March 23, 1957

Card 2/2

70-3-2-18/26

AUTHORS: Yezhkova, Z.I., Zhdanov, G.S. and Umanskiy, M.M.

TITLE: X-ray Determination of the Thermal Expansion Coefficients of Guanidine Aluminium Sulphate Hexahydrate - $C(NH_2)_3[Al(H_2O)_6] \cdot [SO_4]_2$ - (GASH) (Rentgenograficheskoye opredeleniye koeffitsiyentov termicheskogo rasshireniya guanidin-alyuminiy-sul'fata gekzagidrata - $C(NH_2)_3[Al(H_2O)_6] \cdot [SO_4]_2$)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 2, pp 231-232 (USSR)

ABSTRACT: The lattice parameters of GASH at 25 °C were found to be $a=11.7159 \pm 0.0007$ KX, $c=8.9335 \pm 0.0007$ KX and the coefficients of thermal expansion were determined as for the a axis, $\alpha_{\text{perp.}} = 10.0 \pm 0.4 \times 10^{-6}$ per deg. C

for the c axis, $\alpha_{\text{par.}} = 93.3 \pm 1.0 \times 10^{-6}$ per deg. C

The expansion was measured over the range 25-55 °C. The 13.0.0. and the 009 reflections were used with Cu and Fe radiations, Cardl/1 respectively. There are 1 figure and 2 Soviet and 2 English refs.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University im. M.V. Lomonosov)

SUBMITTED: July 3, 1957.

70-3-3-23/36

AUTHORS: Varfolomeyeva, L.A., Zhdanov, G.S. and Uranskiy, M.M.
 TITLE: The Determination in Principal of the Structure of the
 Isomorphous Group of Compounds $[C(NH_2)_3][M(H_2O)_6]_2[EO_4]_2$

Where $M = Al$ or Cr and $E = S$ or Se (Printsiyal'naya
 rasshifrovka struktury izomorfnoy gruppy soedineniy
 $[C(NH_2)_3][M(H_2O)_6]_2[EO_4]_2$, $M = Al, Cr$; $E = S, Se$)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 368 - 371
 (USSR).

ABSTRACT: From packing considerations possible positions for the
 various structural groups in compounds of the GASH type are
 suggested: $M(H_2O)_6$ at $(0,0,0)$, $(1/3, 2/3, Z_1)$ and
 $(2/3, 1/3, Z_1)$; $C(NH_2)_3$ at $(0,0,Z_2)$, $(1/3, 2/3, 0)$ and
 $(2/3, 1/3, 0)$; EO_4 at $(1/3, 1/3, 1/4)$, $(0, 2/3, 1/4)$,
 $(2/3, 0, 1/4)$, $(2/3, 2/3, 3/4)$, $(0, 1/3, 3/4)$ and $(1/3, 0, 3/4)$.
 Patterson projections $P(x,y)$ and $P(x,z)$ were calculated from
 Weissenberg photographs for the compounds with (Al, S) and
 (Al, Se) . These largely confirm the suggested model.
 There are 3 figures and 3 tables and 3 References, 1 of which

Card1/2